

Recovery Plan Action Status

Plan Name: Todsen's Pennyroyal (*Hedeoma todsenii*) Revised Recovery Plan

Plan Status: Final Revision 2

Plan Date: 31-Jan-01

Lead Agency: USFWS

Lead Office: New Mexico Ecological Services Field Office

**(505)
346-2525)**

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Todsen's pennyroyal (<i>Hedeoma todsenii</i>)	1	1.1	Ensure continuing compliance with laws and regulations	Ongoing Current	Prior to FY 1995	FY 2006	U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, Law Enforcement Division, State of New Mexico, Forest Service, Lincoln National Forest, White Sands Missile Range, USFWS Regional Office 2 - Albuquerque	Management, Other: Law Enforcement, Other: Regulations	Species Expert	FY 01: R2 & ES = 2k, LE = 1k, FS = 5k, BLM = 3k, WSMR = 1k, NM = 5k. FY 02: R2 & ES = 2k, LE = 1k, FS = 5k, BLM = 3k, WSMR = 1k, NM = 5k. FY 03: R2 & ES = 2k, LE = 1k, FS = 5k, BLM = 3k, WSMR = 1k, NM = 5k
Todsen's pennyroyal (<i>Hedeoma todsenii</i>)	1	1.2	Develop and implement management plans to prevent detrimental land use impacts	Partially Complete	Prior to FY 1995	FY 2006	U.S. Bureau of Land Management, Forest Service, Lincoln National Forest, White Sands Missile Range	Management, Management: General, Management: Land Use, Management: Propagation, Other: Regulations	Contract, Species Expert	FY 01: FS = 5k, BLM = 5k, WSMR = 5k. FY 02: FS = 3k, BLM = 3k, WSMR = 3k. FY 03: FS = 3k, BLM = 3k, WSMR = 3k.
Todsen's pennyroyal (<i>Hedeoma todsenii</i>)	1	1.3	Protect populations from disturbance	Ongoing Current	Prior to FY 1995	FY 2006	U.S. Bureau of Land Management, Forest Service, Lincoln National Forest, White Sands Missile Range	Management, Management: Habitat Maintenance and Manipulation, Management: Land Use, Other: Law Enforcement	Contract, Species Expert	FY 01: FS = 2k, BLM = 2k, WSMR = 2k. FY 02: FS = 2k, BLM = 2k, WSMR = 2k. FY 03: FS = 2k, BLM = 2k, WSMR = 2k.
Todsen's pennyroyal (<i>Hedeoma todsenii</i>)	2	1.4	Ensure appropriate personnel are aware of Todsen's pennyroyal	Ongoing Current	Prior to FY 1995	FY 2006	U.S. Bureau of Land Management, Forest Service, Lincoln National Forest, White Sands Missile Range	Other: Information and Education	Contract	FY 01: FS = .2k, BLM = .2k, WSMR = .2k. FY 02: FS = .1k, BLM = .1k, WSMR = .1k. FY 03: FS = .1k, BLM = .1k, WSMR = .1k.
Todsen's pennyroyal (<i>Hedeoma todsenii</i>)	2	1.5	Remove any trespass livestock	Ongoing Current	Prior to FY 1995	FY 2006	U.S. Bureau of Land Management, Forest Service, Lincoln National Forest, White Sands Missile Range	Management: General	Contract	FY 01: FS = 2k, BLM = 2k, WSMR = 2k. FY 02: FS = 2k, BLM = 2k, WSMR = 2k.

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Todsen's pennyroyal (Hedeoma todsenii)	2	1.6	Assess erosion and take corrective action if needed	Ongoing Current	Prior to FY 1995	FY 2006	U.S. Bureau of Land Management, Forest Service, Lincoln National Forest	Work type not yet selected	Labor type not yet selected	FY 01: FS = 10k, BLM = 10k. FY 02: FS = 10k, BLM = 10k. FY 03: FS = 10k, BLM = 10k.
Todsen's pennyroyal (Hedeoma todsenii)	1	1.7	Initiate long-term monitoring	Ongoing Current	Prior to FY 1995	FY 2006	U.S. Bureau of Land Management, Forest Service, Lincoln National Forest, White Sands Missile Range	Research: Habitat Status, Research: Population Surveys	Contract, Volunteer	FY 01: FS = 4k, BLM = 4k, WSMR = 2k. FY 02: FS = 2k, BLM = 2k, WSMR = 1k. FY 03: FS = 2k, BLM = 2k, WSMR = 1k.
Todsen's pennyroyal (Hedeoma todsenii)	1	2.1.1	Study genetic structure of all populations	Ongoing Current	Prior to FY 1995	Prior to FY 1995	U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Bureau of Land Management, Forest Service, Lincoln National Forest, White Sands Missile Range, USFWS Regional Office 2 - Albuquerque	Research: Taxonomic Studies	Contract	FY 01: R2 & ES = 7.5k, FS = 7.5k, BLM = 7.5k, WSMR = 5k. FY 02: R2 & ES = 5k, FS = 5k, BLM = 5k, WSMR = 2.5k. FY 03: R2 & ES = 5k, FS = 5k, BLM = 5k, WSMR = 2.5k.
Todsen's pennyroyal (Hedeoma todsenii)	1	2.1.2	Study all aspects of reproductive biology	Complete	Prior to FY 1995	Prior to FY 1995	U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Bureau of Land Management, Forest Service, Lincoln National Forest, White Sands Missile Range, USFWS Regional Office 2 - Albuquerque	Research: Propagation	Contract	FY 01: R2 & ES = 20k, FS = 5k, BLM = 5k, WSMR = 5k. FY 02: R2 & ES = 20k, FS = 5k, BLM = 5k, WSMR = 5k. FY 03: R2 & ES = 2k, FS = 5k, BLM = 5k, WSMR = 5k.
Todsen's pennyroyal (Hedeoma todsenii)	1	2.2.1	Study germination requirements	Ongoing Current	Prior to FY 1995	Prior to FY 1995	U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Bureau of Land Management, Forest Service, Lincoln National Forest, White Sands Missile Range, USFWS Regional Office 2 - Albuquerque	Research: Reintroduction	Contract	FY 01: R2 & ES = 2k, FS = .5k, BLM = .5k, WSMR = .5k. FY 02: R2 & ES = 2k, FS = .5k, BLM = .5k, WSMR = .5k.

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Todsen's pennyroyal (Hedeoma todsenii)	1	2.2.2	Determine growth requirements	Partially Complete	Prior to FY 1995	Prior to FY 1995	U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Bureau of Land Management, Forest Service, Lincoln National Forest, White Sands Missile Range, USFWS Regional Office 2 - Albuquerque	Research: Reintroduction	Contract	FY 01: R2 & ES = 10k, FS = 7k, BLM = 7k, WSMR = 5k. FY 02: R2 & ES = 10k, FS = 7k, BLM = 7k, WSMR = 5k. FY 03: R2 & ES = 10k, FS = 7k, BLM = 7k, WSMR = 5k.
Todsen's pennyroyal (Hedeoma todsenii)	2	2.2.3	Study geology and soils	Partially Complete	Prior to FY 1995	Prior to FY 1995	U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Bureau of Land Management, Forest Service, Lincoln National Forest, White Sands Missile Range, USFWS Regional Office 2 - Albuquerque	Research: Demographic Studies, Research: Habitat Requirements	Contract	FY 01: R2 & ES = 3k, FS = 1k, BLM = 3k, WSMR = 2k. FY 02: R2 & ES = 2k, FS = 1k, BLM = 2k, WSMR = 1k. FY 03: R2 & ES = 1k, FS = 1k, BLM = 1k, WSMR = .5k.
Todsen's pennyroyal (Hedeoma todsenii)	2	2.2.4	Study fire effects	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Bureau of Land Management, Forest Service, Lincoln National Forest, White Sands Missile Range, USFWS Regional Office 2 - Albuquerque	Research: General, Research: Habitat Requirements, Research: Management Techniques	Contract	FY 01: R2 & ES = 7k, FS = 3k, BLM = 3k, WSMR = 3k. FY 02: R2 & ES = 5k, FS = 3k, BLM = 3k, WSMR = 3k. FY 03: R2 & ES = 3k, FS = 3k, BLM = 3k, WSMR = 3k.
Todsen's pennyroyal (Hedeoma todsenii)	2	2.3	Use research results to determine if populations can sustain themselves	Ongoing Current	Prior to FY 1995	FY 2006	U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Bureau of Land Management, Forest Service, Lincoln National Forest, White Sands Missile Range, USFWS Regional Office 2 - Albuquerque	Management: Land Use, Research: General, Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques, Research: Reintroduction	Contract	FY 03: R2 & ES = 5k, BLM = 2k, FS = 2k, WSMR = 2k.

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Todsen's pennyroyal (Hedeoma todsenii)	3	3.1	Search for more populations	Ongoing Current	Prior to FY 1995	FY 2006	U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Bureau of Land Management, State of New Mexico, Forest Service, Lincoln National Forest, White Sands Missile Range, USFWS Regional Office 2 - Albuquerque	Work type not yet selected	Labor type not yet selected	FY 01: R2 & ES = 4k, FS = 4k, BLM = 4k, WSMR = 4k, NM = 4k. FY 02: R2 & ES = 4k, FS = 4k, BLM = 4k, WSMR = 4k, NM = 4k. FY 03: R2 & ES = 4k, FS = 4k, BLM = 4k, WSMR = 4k, NM = 4k.
Todsen's pennyroyal (Hedeoma todsenii)	1	3.2	Protect new populations	Ongoing Current	Prior to FY 1995	FY 2006	U.S. Bureau of Land Management, Forest Service, Lincoln National Forest, White Sands Missile Range	Management: General, Management: Habitat Maintenance and Manipulation, Management: Land Use, Other: Law Enforcement	Contract	FY 02: FS = 1k, BLM = 1k, WSMR = 1k. FY 03: FS = 1k, BLM = 1k, WSMR = 1k. Contingent on discovery of more populations
Todsen's pennyroyal (Hedeoma todsenii)	3	4	Establish a working group for agency and public coordination	Ongoing Current	FY 2000 - FY 2004	FY 2006	U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Bureau of Land Management, State of New Mexico, Forest Service, Lincoln National Forest, White Sands Missile Range, USFWS Regional Office 2 - Albuquerque	Other: Administration	Contract, Species Expert	FY 01: R2 & ES = .5k, FS = .2k, BLM = .2k, WSMR = .2k, NM = .2k. FY 02: R2 & ES = .5k, FS = .2k, BLM = .2k, WSMR = .2k, NM = .2k. FY 03: R2 & ES = .5k, FS = .2k, BLM = .2k, WSMR = .2k, NM = .2k.